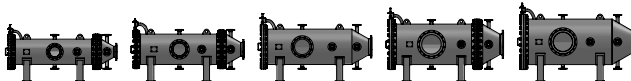
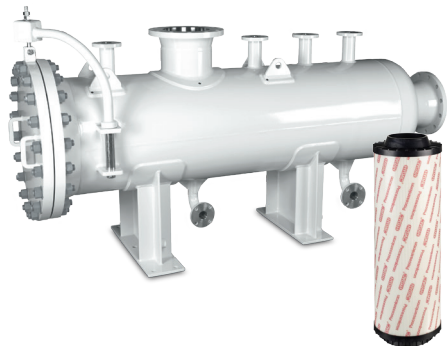


Process Inline Filter

Working filter PLF2-6HF



Specifications	
Nominal size:	DN 200 - DN 400
Q _{s max} :	1170 m ³ /h
P _{s max} :	16 bar
Filtration ratings:	1 - 90 μm

1. GENERAL

Product description

- **Working filter** for continuous separation of solid particle concentrations from low-viscosity fluids, such as water, coolants, washing media, processing oils, scrubber water.

Filter element technology

- Filter element type: Processmicron® PELF-PM-6HF (6" HighFlow)
- Filter material: polyester (PES) / polypropylene (PP)
- Filter element design: M-pleat
- Filtration ratings: 1 to 90 μm
- Filter element length: 20" per filter element, 3-stage filter housing (60")
- Sealing materials: asbestos-free gasket, FKM / NBR / EPDM

Product advantages

- Very large filter area per filter element
- Optimised, enlarged upstream area of filter element for high contaminant loads
- Protection of the clean side during filter element replacement thanks to fixed support tube
- Compact design with high flow rates
- Low pressure drops due to large cross sections and surfaces
- Superior handling compared to commonly available disposable filter elements
- Short maintenance times
- High contamination retention capacity
- High filtration efficiency
- High media compatibility

Technical data, filter housing

Size	Port size	Materials Filter housing ¹⁾	P _{s max} [bar]	T _{s max} [°C]	Weight [kg]	Volume [l]
PLF2-3-6HF	DN 200 / 8"	<ul style="list-style-type: none"> • Carbon steel • Stainless steel 	<ul style="list-style-type: none"> 6 10 16 	<ul style="list-style-type: none"> • 60 °C ²⁾ • 90 °C ³⁾ 	See section on dimensions dependent on pressure and design code	360
PLF2-5-6HF	DN 250 / 10"					550
PLF2-7-6HF	DN 300 / 12"					765
PLF2-10-6HF	DN 400 / 16"					1060
PLF2-13-6HF	DN 400 / 16"					1330

Technical data, filter elements

Length	Filter materials ⁴⁾	Filtration ratings [μm]	Permissible differential pressure at the filter element [bar]
3-stage (3 x 20") ⁶⁾	<ul style="list-style-type: none"> • Polyester (PES) ⁵⁾ • Polypropylene (PP) 	<ul style="list-style-type: none"> • PES = 1 / 3 / 5 / 10 / 20 / 30 / 40 / 50 / 70 / 90 • PP = 3 / 5 / 10 / 20 / 30 / 40 / 50 / 70 	2.5

Legend

- ¹⁾ **Materials of filter housing:**
E1 = stainless steel 1.4301 / 1.4541 or similar (Group 304 / 321)
E2 = stainless steel 1.4571 or similar (Group 316)
- ²⁾ For coated housing
- ³⁾ For stainless steel housing
- ⁴⁾ T_{s max} PES filter element: 90 °C
T_{s max} PP filter element: 60 °C
- ⁵⁾ Material of end caps: polyamide
- ⁶⁾ 1-stage (1x 20") and 2-stage (2x 20") housing designs on request

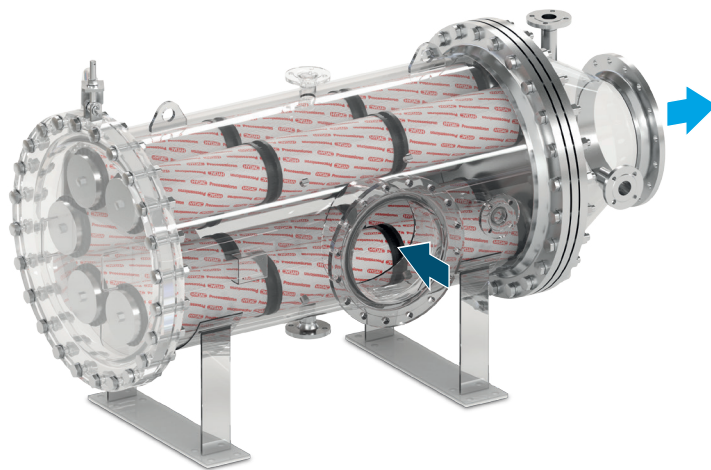
2. FUNCTION AND SPECIAL FEATURES

FUNCTIONAL PRINCIPLE





- Flow through the filter element is from the outside to the inside
- The separated solids remain on the outer side of the filter element
- Particles being deposited during the filtration causes a loss of pressure
- Filter element change when differential pressure is reached

ACCESSORIES

- Pivoting lid device
- Drain and vent ball valves
- Various clogging indicators



3. CLOGGING INDICATORS

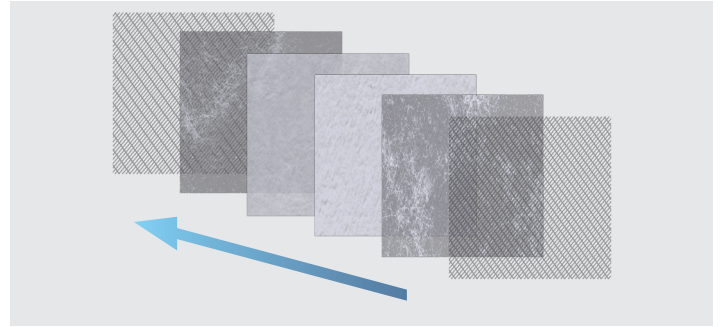
Type	Image	Description
Clogging indicator/differential pressure monitoring		
Visual PVD x B.x		<ul style="list-style-type: none"> • Visual display with green/red field • Automatic reset
Electrical PVD x C.x		<ul style="list-style-type: none"> • Electrical signal when trigger point is reached • Switch type: normally closed or normally open • Automatic reset
Visual-electrical PVD x D.x /-L...		<ul style="list-style-type: none"> • Lamp for visual display • Electrical signal (normally closed or normally open) • Automatic reset
Differential pressure gauge DS11		<ul style="list-style-type: none"> • 2 micro-switches (N/C or N/O) • Switch points of the micro-switches can be adjusted from outside • Measuring cell made from aluminium or brass alloy

4. FILTER ELEMENT TECHNOLOGY

All Processmicron® filter elements are fundamentally structured as follows:

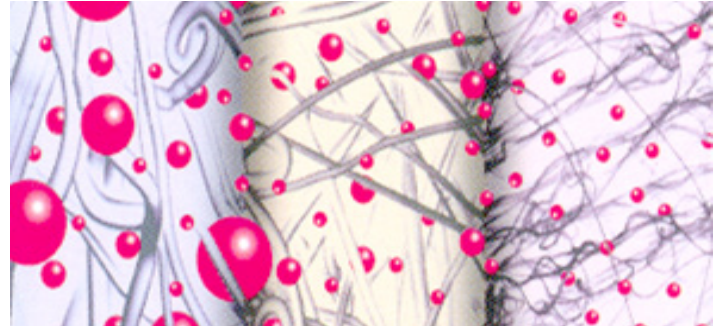
Multi-layer filter mat construction

- Robust and high-quality layer structure
 - ➔ Filter layers do not fold over
- High contamination retention
- Low pressure loss



Staged (graduated) depth filtration

- High cleanliness in single passage
- High layer thickness of the filter medium
 - ➔ High storage volume for contamination

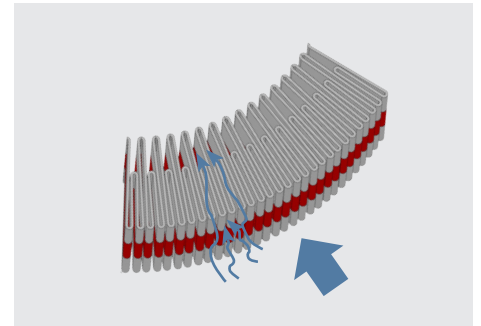


Filter element type:

Processmicron® HighFlow 6^{cc}

Working filtration:

- M-pleat
- Optimised, enlarged upstream area for high polluting loads



5. FILTER CALCULATION

WORKING FILTER

Purpose	Main contamination sink in the fluid system	
Filter selection	Based on the contaminant load and contamination type	
Flow rate per filter element	Water:	Max. 30 m ³ /h per filter element
	Coolants/washing media:	Max. 25 m ³ /h per filter element
Position of the filter	Main filter in the fluid system	
Pre-filtration requirements	Water:	Pre-filtration from 200 to 500 µm
	Coolants/washing media:	Coarse filtration approx. 3000 µm is sufficient

CHECKLIST FOR FILTER CALCULATION

STEP 1: REQUIRED OPERATING DATA

- Observe Pressure Equipment Directive PED 2014/68/EU
- Type of operating medium
- Viscosity
- Operating pressure
- Operating temperature
- Flow rate
- Required filtration rating
- Type of solid substances to be discharged
- Solid particle content

STEP 2: FILTER SIZING

- Hydraulic determination of size on basis of pressure drop curves
- The initial pressure difference for clean filter elements should not exceed a value of 0.2 bar*.
- Housing material selected on basis of operating data and operating medium
- Sealing material selected on basis of operating data and operating medium
- The flow velocity of 4 m/s at the flange inlet should not be exceeded

STEP 3: DETERMINING THE FILTRATION RATING

- **As a basic rule: as coarse as possible – as fine as necessary!**

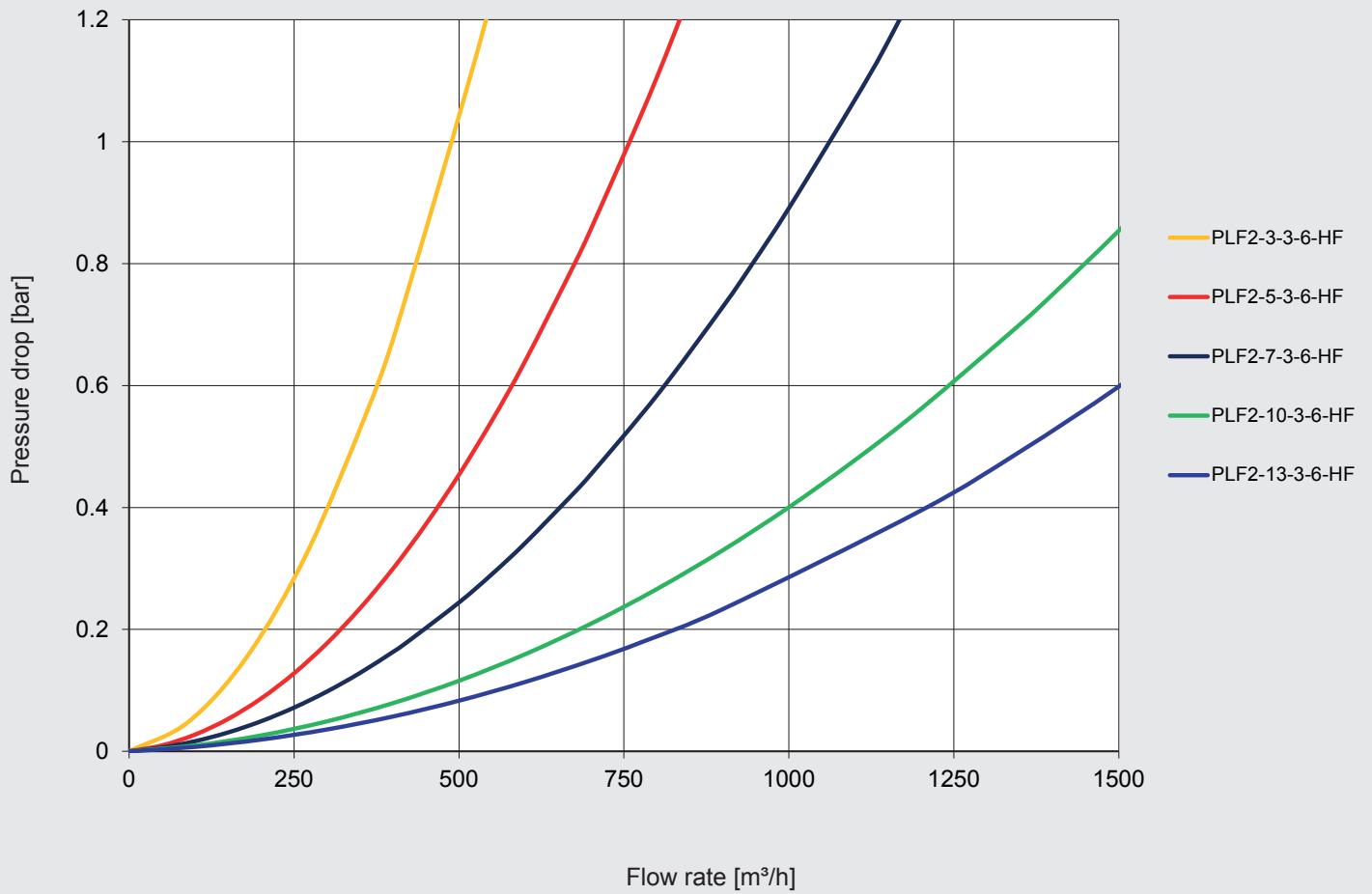
* Higher values possible following consultation with our Head Office.

6. FILTER CONFIGURATION*

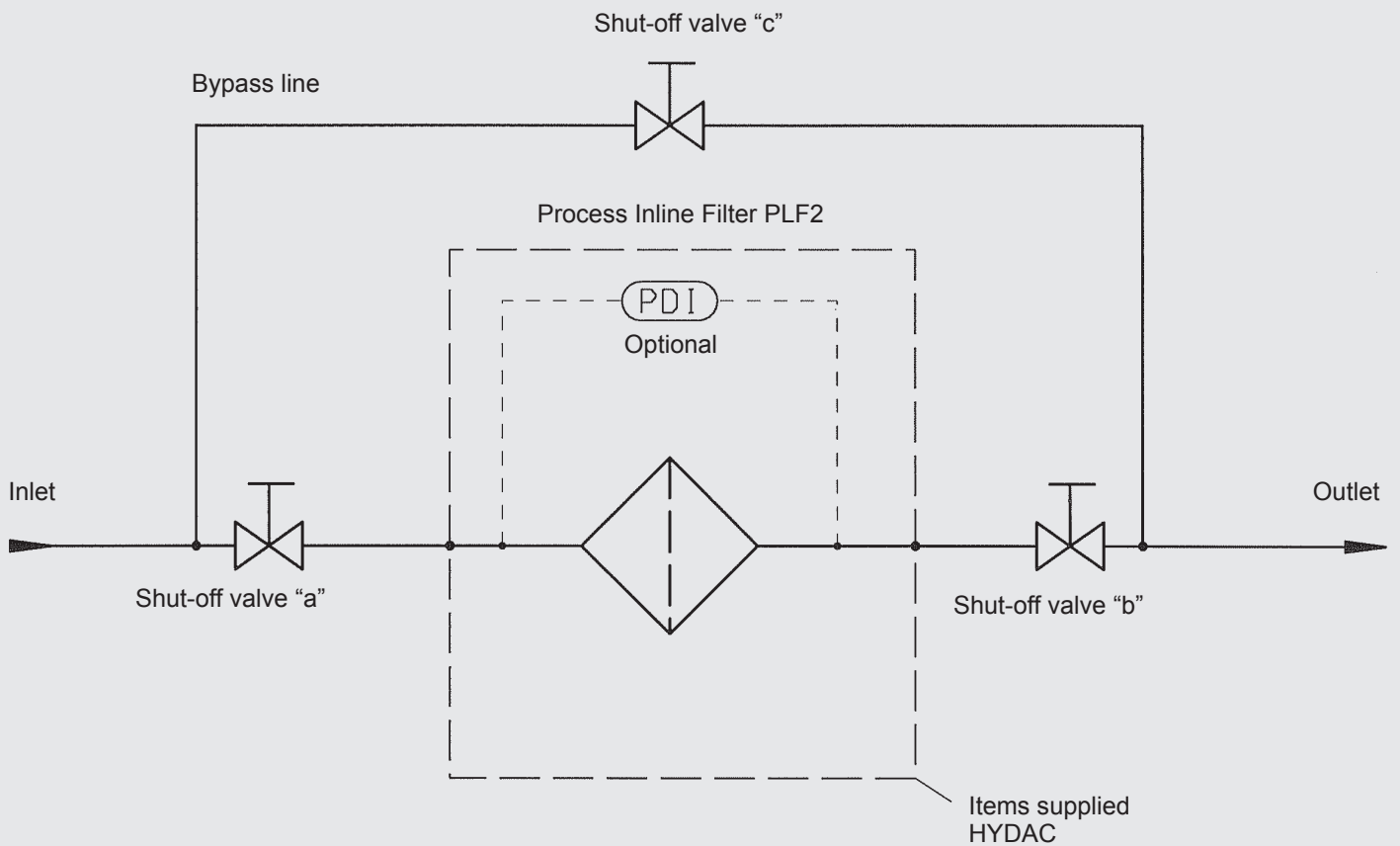
	Standard	Optional
Housing	<ul style="list-style-type: none"> Housing design and housing production according to AD 2000 and, as required, Pressure Equipment Directive 2014/68/EU ASME VIII Div. 1 Design 	<ul style="list-style-type: none"> ASME VIII Div. 1 with ASME stamp EN 13445 Others on request
Flange connections	<ul style="list-style-type: none"> DIN EN ASME 	<ul style="list-style-type: none"> JIS Others on request
Seal materials Filter housing	FPM	Other sealing materials on request
Seal materials Filter elements	FPM	<ul style="list-style-type: none"> NBR EPDM Silicone Other sealing materials on request
Differential pressure monitoring	<ul style="list-style-type: none"> Visual Visual-electrical 	Pressure transmitter (4 - 20 mA)
Material of filter housing	<ul style="list-style-type: none"> Carbon steel <ul style="list-style-type: none"> Stainless steel: 1.4301 / 1.4541 or similar (Group 304 / 321) Stainless steel: 1.4571 or similar (Group 316) 	<ul style="list-style-type: none"> Duplex Super Duplex FRP
External corrosion protection	<ul style="list-style-type: none"> 2-layer coating (not applicable for stainless steel housing) Colour RAL 7040 (window grey) 	<ul style="list-style-type: none"> Multi-layer coating Special paints for offshore applications Special paints/coatings according to customer specifications
Internal corrosion protection	<ul style="list-style-type: none"> 2-comp. epoxy coating 2-comp. highly cross-linked polyurethane coating 	<ul style="list-style-type: none"> Glass flake lining Special paints/coatings according to customer specifications Rubber lining
Material of filter elements	<ul style="list-style-type: none"> Polyester (PES), material of end caps: polyamide (PA) Polypropylene (PP) 	
Documentation	Operating manual	<ul style="list-style-type: none"> Material certificates to EN 10204, 3.1 for pressure-bearing wetted housing parts Manufacturer's inspection certificate to DIN 55350, part 18 "M" for construction and pressure inspection According to customer specification 3rd parties (TÜV, ABS, Lloyd's, etc.)

* Other versions and customised special solutions following consultation with our Head Office.

PRESSURE DROP CURVE



CIRCUIT DIAGRAM



7. MODEL CODE

MODEL CODE PROCESS INLINE FILTER PLF2-6HF

PLF2 - 3 - 3 - 6HF - H - E1 - S - L - E1 - 10 - C - 1 - 0 - 0 - So

Filter type

Multiple-place filter housing ¹⁾

Size of filter

(Corresponds to number of filter element support tubes)

Filter element size	
6"	
3	X
5	X
7	X
10	X
13	X

Length of filter housing

- 1 = 1-stage (on request)
- 2 = 2-stage (on request)
- 3 = 3-stage

Filter element diameter and filter element type

6HF = 6" filter element diameter HighFlow (HF)

Filter alignment

- H = horizontal
- V = vertical (on request)

Housing material

- NP = carbon steel, 2-comp. PUR internal coating
- NG = carbon steel, 3 mm rubber lining (on request)
- E1 = stainless steel 1.4301 / 1.4541 or similar (Group 304 / 321)
- E2 = stainless steel 1.4571 or similar (Group 316)
- SD = Super Duplex (on request)
- D = Duplex (on request)
- A = for ANSI flanges, add suffix "A"
- J = for JIS flanges, add suffix "J"

Design code

- S = HYDAC Standard (AD 2000)
- A = ASME VIII Div. 1 (material and calculation...)
- U = ASME VIII Div. 1 Stamped
- E = EN 13445

Type of connection

	Connection size	Filter size
		6"
L	DIN DN 200 / 8" ASME	3
M	DIN DN 250 / 10" ASME	5
N	DIN DN 300 / 12" ASME	7
Q	DIN DN 400 / 16" ASME	10 / 13

Material of internal parts

- E1 = stainless steel 1.4301 or similar (Group 304)
- E2 = stainless steel 1.4571 or similar (Group 316)
- SD = Super Duplex (on request)
- D = Duplex (on request)

Pressure ranges

- 6 = PN 6
- 10 = PN 10
- 16 = PN 16

Sealing material

- C = asbestos-free gasket
- N = NBR
- V = FKM (Viton)
- E = EPDM

Clogging indicator

- 0 = without clogging indicator
- 1 = visual indicator (PVD 2B.1)
- 2 = visual-electrical indicator (PVD 2D.0/-L24)
- 3 = V01
- 4 = differential pressure gauge in aluminium with 2 adjustable switching contacts
- 5 = differential pressure gauge in stainless steel with 2 adjustable switching contacts
- 6 = electrical indicator (PVD 2C.0)
- 7 = PVL2GW.0/-V-110
- 8 = PVL2GW.0/-V-120

Optional equipment

- 1 = pivoting lid device (only for horizontal variant) / davit (only for vertical variant)
- 2 = toggle screws
- 3 = stainless steel air vent ball valve
- 4 = drain flap DN 50

(Multiple fittings possible, please provide the corresponding number combination!)

Modification number

Supplementary details

So = code number for special equipment

¹⁾ Multiple-place filter housing = filter housing with several support tubes

TYPE CODE – PROCESSMICRON® FILTER ELEMENT 6“ HF

PELF-PM - 6 - HF - 2 - PL - 005 - PES - PA - V - 1

Filter element type

Processmicron®

Filter element diameter

6 = 6“ external diameter

Filter element type

HF = HighFlow (6“)

Length

2 = 20“

Type of filter element

PL = pleated

SP = spun spray

Filtration rating*

001 = 1 µm

003 = 3 µm

005 = 5 µm

010 = 10 µm

020 = 20 µm

030 = 30 µm

040 = 40 µm

050 = 50 µm

070 = 70 µm

090 = 90 µm

Filter material

PES = polyester

PP = polypropylene

Filter material	Type of filter element	Filtration rating
PP	PL	003 / 005 / 010 / 020 / 030 / 040 / 050 / 070
	SP	005 / 020 / 070
PES	PL	001 / 003 / 005 / 010 / 020 / 030 / 040 / 050 / 070 / 090

End caps

PA = polyamide (not for filter element type “SP”)

PP = polypropylene (not for filter element type “PES”)

Sealing material

N = NBR

V = FPM

E = EPDM

S = silicone

Technical design

1 = injection-moulded end caps with 2-comp. PUR adhesive (only suitable for filter element type: PL / PES)

2 = injection-moulded end caps with polyolefin melt (only suitable for filter element type: PL / SP / PP)

3 = injection-moulded end caps with IR welding (only suitable for filter element type: PL / SP / PP)

FILTER HOUSING, TWO-PART, CARBON STEEL

Size	DN1	DN2	b1	b2	h1	h2	h3	l1	l2	l3	H1	L1	L2	L3	L4
PLF2-3-3-6 PN6	200	200	425	350	600	350	350	1250	800	200	1112	1700	2180	2104	805
PLF2-3-3-6 PN10	200	200	425	350	600	350	350	1250	800	200	1125	1700	2198	2118	805
PLF2-3-3-6 PN16	200	200	425	350	600	350	350	1250	800	200	1147	1700	2223	2127	805
PLF2-3-3-6 ASME	8"	8"	425	350	600	350	350	1250	800	200	1140	1700	2319	2226	805
PLF2-5-3-6 PN6	250	250	500	400	650	400	400	1300	850	270	1247	1700	2234	2152	920
PLF2-5-3-6 PN10	250	250	500	400	650	400	400	1300	850	270	1260	1700	2257	2171	920
PLF2-5-3-6 PN16	250	250	500	400	650	400	400	1300	850	270	1289	1700	2280	2179	920
PLF2-5-3-6 ASME	10"	10"	500	400	650	400	400	1300	850	270	1277	1700	2370	2272	920
PLF2-7-3-6 PN6	300	300	550	450	700	450	450	1400	800	300	1349	1700	2296	2204	1015
PLF2-7-3-6 PN10	300	300	550	450	700	450	450	1400	800	300	1368	1700	2307	2217	1015
PLF2-7-3-6 PN16	300	300	550	450	700	450	450	1400	800	300	1375	1700	2354	2244	1015
PLF2-7-3-6 ASME	12"	12"	550	450	700	450	450	1400	800	300	1339	1700	2384	2286	1015
PLF2-10-3-6 PN6	400	400	650	500	750	500	500	1450	850	300	1458	1700	2319	2225	1175
PLF2-10-3-6 PN10	400	400	650	500	750	500	500	1450	850	300	1478	1700	2347	2249	1175
PLF2-10-3-6 PN16	400	400	650	500	750	500	500	1450	850	300	1483	1700	2383	2271	1175
PLF2-10-3-6 ASME	16"	16"	650	500	750	500	500	1450	850	300	1439	1700	2418	2319	1175
PLF2-13-3-6 PN6	400	400	700	550	800	550	550	1500	950	400	1558	1700	2413	2313	1275
PLF2-13-3-6 PN10	400	400	700	550	800	550	550	1500	950	400	1578	1700	2440	2338	1275
PLF2-13-3-6 PN16	400	400	700	550	800	550	550	1500	950	400	1583	1700	2477	2361	1275
PLF2-13-3-6 ASME	16"	16"	700	550	800	550	550	1500	950	400	1549	1700	2532	2423	1275

Size	L5	L6	L7	L8	L9	L10	L11	D1	D2	D3	E1	E2	F1	F2	F3
PLF2-3-3-6 PN6	560	24	15	695	425	960	160	645	508	27	DN50	DN50	1250	550	180
PLF2-3-3-6 PN10	560	28	15	695	425	960	160	670	508	27	DN50	DN50	1250	550	180
PLF2-3-3-6 PN16	560	44	15	695	425	960	160	715	508	27	DN50	DN50	1250	550	180
PLF2-3-3-6 ASME	560	41	15	695	425	960	160	700	508	27	2"	2"	1250	550	180
PLF2-5-3-6 PN6	560	30	15	770	515	1095	190	755	610	27	DN50	DN50	1300	700	180
PLF2-5-3-6 PN10	560	34	15	770	515	1095	190	780	610	27	DN50	DN50	1300	700	180
PLF2-5-3-6 PN16	560	54	15	770	515	1095	190	840	610	27	DN50	DN50	1300	700	180
PLF2-5-3-6 ASME	560	46.1	15	770	515	1095	190	815	610	27	2"	2"	1300	700	180
PLF2-7-3-6 PN6	560	40	15	835	565	1190	210	860	711	27	DN50	DN50	1300	700	180
PLF2-7-3-6 PN10	560	38	15	835	565	1190	210	895	711	27	DN50	DN50	1300	700	180
PLF2-7-3-6 PN16	560	58	15	835	565	1190	210	910	711	27	DN50	DN50	1300	700	180
PLF2-7-3-6 ASME	560	46.2	15	835	565	1190	210	835	711	27	2"	2"	1300	700	180
PLF2-10-3-6 PN6	560	44	15	935	660	1350	250	940	813	30	DN50	DN50	1280	800	180
PLF2-10-3-6 PN10	560	48	15	935	660	1350	250	1015	813	30	DN50	DN50	1280	800	180
PLF2-10-3-6 PN16	560	62	15	935	660	1350	250	1025	813	30	DN50	DN50	1280	800	180
PLF2-10-3-6 ASME	560	49.3	15	935	660	1350	250	975	813	30	2"	2"	1280	800	180
PLF2-13-3-6 PN6	560	52	15	1020	740	1480	280	1175	914	30	DN50	DN50	1280	900	180
PLF2-13-3-6 PN10	560	54	15	1020	740	1480	280	1230	914	30	DN50	DN50	1280	900	180
PLF2-13-3-6 PN16	560	68	15	1020	740	1480	280	1255	914	30	DN50	DN50	1280	900	180
PLF2-13-3-6 ASME	560	65.2	15	1020	740	1480	280	1175	914	30	2"	2"	1280	900	180

The dimensions indicated have ± 10 mm tolerances.
Subject to technical modifications.

FILTER HOUSING, ONE-PART, STAINLESS STEEL

Size	DN1	DN2	b1	b2	h1	h2	h3	I1	I2	I3	H1	L1	L2	L3	L4
PLF2-3-3-6 PN6*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLF2-3-3-6 PN10*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLF2-3-3-6 PN16*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLF2-3-3-6 ASME*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLF2-5-3-6 PN6	250	250	500	400	650	400	400	1300	850	270	1247	-	2212	2130	920
PLF2-5-3-6 PN10	250	250	500	400	650	400	400	1300	850	270	1260	-	2223	2137	920
PLF2-5-3-6 PN16	250	250	500	400	650	400	400	1300	850	270	1289	-	2240	2139	920
PLF2-5-3-6 ASME	10"	10"	500	400	650	400	400	1300	850	270	1277	-	2266	2272	920
PLF2-7-3-6 PN6	300	300	550	450	700	450	450	1400	800	300	1349	-	2268	2176	1015
PLF2-7-3-6 PN10	300	300	550	450	700	450	450	1400	800	300	1368	-	2270	2180	1015
PLF2-7-3-6 PN16	300	300	550	450	700	450	450	1400	800	300	1375	-	2298	2188	1015
PLF2-7-3-6 ASME	12"	12"	550	450	700	450	450	1400	800	300	1339	-	2336	2238	1015
PLF2-10-3-6 PN6	400	400	650	500	750	500	500	1450	850	300	1458	-	2293	2197	1175
PLF2-10-3-6 PN10	400	400	650	500	750	500	500	1450	850	300	1478	-	2314	2202	1175
PLF2-10-3-6 PN16	400	400	650	500	750	500	500	1450	850	300	1483	-	2331	2217	1175
PLF2-10-3-6 ASME	16"	16"	650	500	750	500	500	1450	850	300	1439	-	2370	2269	1175
PLF2-13-3-6 PN6	400	400	700	550	800	550	550	1500	950	400	1558	-	2385	2285	1275
PLF2-13-3-6 PN10	400	400	700	550	800	550	550	1500	950	400	1578	-	2394	2292	1275
PLF2-13-3-6 PN16	400	400	700	550	800	550	550	1500	950	400	1583	-	2421	2305	1275
PLF2-13-3-6 ASME	16"	16"	700	550	800	550	550	1500	950	400	1549	-	2456	2347	1275

Size	L5	L6	L7	L8	L9	L10	L11	D1	D2	D3	E1	E2	F1	F2	F3
PLF2-3-3-6 PN6*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLF2-3-3-6 PN10*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLF2-3-3-6 PN16*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLF2-3-3-6 ASME*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLF2-5-3-6 PN6	560	30	15	770	515	1095	190	755	610	27	DN50	DN50	1380	700	180
PLF2-5-3-6 PN10	560	34	15	770	515	1095	190	780	610	27	DN50	DN50	1380	700	180
PLF2-5-3-6 PN16	560	54	15	770	515	1095	190	840	610	27	DN50	DN50	1380	700	180
PLF2-5-3-6 ASME	560	46.1	15	770	515	1095	190	815	610	27	2"	2"	1380	700	180
PLF2-7-3-6 PN6	560	40	15	835	565	1190	210	860	711	27	DN50	DN50	1380	700	180
PLF2-7-3-6 PN10	560	38	15	835	565	1190	210	895	711	27	DN50	DN50	1380	700	180
PLF2-7-3-6 PN16	560	58	15	835	565	1190	210	910	711	27	DN50	DN50	1380	700	180
PLF2-7-3-6 ASME	560	46.2	15	835	565	1190	210	835	711	27	2"	2"	1380	700	180
PLF2-10-3-6 PN6	560	44	15	935	660	1350	250	940	813	30	DN50	DN50	1380	800	180
PLF2-10-3-6 PN10	560	48	15	935	660	1350	250	1015	813	30	DN50	DN50	1380	800	180
PLF2-10-3-6 PN16	560	62	15	935	660	1350	250	1025	813	30	DN50	DN50	1380	800	180
PLF2-10-3-6 ASME	560	49.3	15	935	660	1350	250	975	813	30	2"	2"	1380	800	180
PLF2-13-3-6 PN6	560	52	15	1020	740	1480	280	1175	914	30	DN50	DN50	1380	900	180
PLF2-13-3-6 PN10	560	54	15	1020	740	1480	280	1230	914	30	DN50	DN50	1380	900	180
PLF2-13-3-6 PN16	560	68	15	1020	740	1480	280	1255	914	30	DN50	DN50	1380	900	180
PLF2-13-3-6 ASME	560	65.2	15	1020	740	1480	280	1175	914	30	2"	2"	1380	900	180

The dimensions indicated have ± 10 mm tolerances.
Subject to technical modifications.

* Only available in two-part filter housing version

NOTE

The information in this brochure relates to the operating conditions and applications described.
For applications or operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.

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